DAFTAR PUSTAKA

Abu Bakar, M., Tan, W. L., & Abu Bakar, N. H. H. (2007). A Simple Synthesis of Size-Reduce Magnetite Nano-Crystals via Aqueous to Toluene Phase-Transfer Method. *Journal of Magnetism and Magnetic Materials*, *314*(1), 1–6. https://doi.org/10.1016/j.jmmm.2007.01.018

Adi, W. A. (2014). *Pengembangan Bahan Magnetik Sistem La(1-y)$Ba_yFe_xMn_{½(1-x)}Ti_{½(1-x)}O_3$ (x = 0-1,0 dan y = 0-1,0) sebagai bahan Penyerap Gelombang Elektromagnetik*. Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Indonesia.

Afzali, A., Mottaghitalab, V., Afghahi, S. S., & Jafarian, M. (2018). The coating of composite nanoparticles of $BaFe_{12}O_{19}$/multi-walled carbon nanotubes using silicon matrix on nonwoven substrate for radar absorption in X and Ku bands. *Journal of Industrial Textiles*, *47*(8), 1867–1886. https://doi.org/10.1177/1528083717714480

Ahmmad, B., Islam, M. Z., Billah, A., & Basith, M. A. (2016). Anomalous coercivity enhancement with temperature and tunable exchange bias in Gd and Ti co-doped $BiFeO_3$ multiferroics. *Journal of Physics D: Applied Physics*, *49*(9), 1–7. https://doi.org/10.1088/0022-3727/49/9/095001

Aishwarya, K., & Navamathavan, R. (2023). Effect of grain size and orthorhombic phase of La doped $BiFeO_3$ on thermoelectric properties. *Journal of Alloys and Compounds*, *947*. https://doi.org/10.1016/j.jallcom.2023.169452

Amrillah, T., Hermawan, A., Yin, S., & Juang, J. Y. (2021). Formation and Physical Properties of the Self-assembled BFO-CFO Vertically Aligned Nanocomposite on a CFO-Buffered Two-Dimensional Flexible Mica Substrate. *RSC Advances*, *11*(26), 15539–15545. https://doi.org/10.1039/d1ra01158h

Andriyanti, W., Arsyad, B., Sujitno, T., Suprapto, & Priyantoro, D. (2019). The effect of the Ratio of the Gas Mixture on Mechanical Properties and Crystal Structures on 316L Stainless Steel Biomaterial Using DC Sputtering Technique. *Jurnal Sains Materi Indonesia*, *21*(1), 13–20.

Apostolov, A. T., Apostolova, I. N., & Wesselinowa, J. M. (2020). Magnetic Field Effect on The Dielectric Properties of Rare Earth Doped Multiferroic $BiFeO_3$. *Journal of Magnetism and Magnetic Materials*, *513*, 1–4. https://doi.org/10.1016/j.jmmm.2020.167101

Ari Adi, W., & Yunasfi. (2020). Magnetic properties and microwave absorption characteristic of MWNT filled with magnetite coated iron nanoparticles. *Materials Science and Engineering: B*, *262*. https://doi.org/10.1016/j.mseb.2020.114760

Arifani, M., Baqiya, M. A., & Darminto. (2012). Sintesis Multiferoik $BiFeO_3$ Berbasis Pasir Besi dengan Metode Sol Gel. *Jurnal Sains Dan Seni ITS*, *1*, 11–14.

Astafev, P. A., Zorin, D. I., Reizenkind, J. A., Lerer, A. M., Andryushin, K. P., Pavelko, A. A., & Reznichenko, L. A. (2024). Microwave absorption properties of bismuth ferrite-based ceramics. *Journal of Advanced Dielectrics*. https://doi.org/10.1142/S2010135X24500036

Astafev, P., Andryushin, K., Pavelko, A., Lerer, A., Reizenkind, Y., Glazunova, E., Shilkina, L., Andryushina, I., Nagaenko, A., & Reznichenko, L. (2024). Microwave Absorption Properties of Ceramics Based on BiFeO3 Modified with Ho. *Solids*, *5*(1), 66–83. https://doi.org/10.3390/solids5010005

Bhushan, B., Wang, Z., Van Tol, J., S. Dalal, N., Basumallick, A., Vasanthacharya, N. Y., Kumar, S., & Das, D. (2012). Tailoring the magnetic and optical characteristics of nanocrystalline $BiFeO_3$ by Ce doping. *Journal of the American Ceramic Society*, *95*(6), 1985–1992. https://doi.org/10.1111/j.1551-2916.2012.05132.x

Briois, P., Aubry, E., Ringuedé, A., Cassir, M., & Billard, A. (2021). Feasibility Synthesis and Characterization of Gadolinia Doped Ceria Coatings Oobtained by Cathodic Arc Evaporation. *Nanomaterials*, *11*(5). https://doi.org/10.3390/nano11051211

Bystrov, A., Wang, Y., & Gardner, P. (2022). Analysis of vector network analyzer thermal drift error. *Metrology*, *2*(2), 150–160. https://doi.org/10.3390/metrology2020010

Callister, W. D., & Rethwisch, D. G. (2018). *Material Science and Engineering: Vol. 10th edition* (10th edition). Wiley.

Candeia, R. A., Souza, M. A. F., Bernardi, M. I. B., Maestrelli, S. C., Santos, I. M. G., Souza, A. G., & Longo, E. (2007). Monoferrite $BaFe_2O_4$ applied as ceramic pigment. *Ceramics International*, *33*(4), 521–525. https://doi.org/10.1016/j.ceramint.2005.10.018

Cao, M. S., Song, W. L., Hou, Z. L., Wen, B., & Yuan, J. (2010a). The effects of temperature and frequency on the dielectric properties, electromagnetic interference shielding and microwave-absorption of short carbon fiber/silica composites. *Carbon*, *48*(3), 788–796. https://doi.org/10.1016/j.carbon.2009.10.028

Cao, M. S., Song, W. L., Hou, Z. L., Wen, B., & Yuan, J. (2010b). The effects of temperature and frequency on the dielectric properties, electromagnetic interference shielding and microwave-absorption of short carbon fiber/silica composites. *Carbon*, *48*(3), 788–796. https://doi.org/10.1016/j.carbon.2009.10.028

Catalan, G., & Scott, J. F. (2009). Physics and applications of bismuth ferrite. *Advanced Materials*, *21*(24), 2463–2485. https://doi.org/10.1002/adma.200802849

Chakraborty, H., Chabri, S., & Bhowmik, N. (2013). Electromagnetic interference reflectivity of nanostructured manganese ferrite reinforced polypyrrole composites. *Transactions on Electrical and Electronic Materials*, *14*(6), 295–298. https://doi.org/10.4313/TEEM.2013.14.6.295

Chao, M. (2018). Synthesis and Characterization of Semicrystalline Polyimides Containing Bridged Linkages. *International Journal of Polymer Science*, *2018*. https://doi.org/10.1155/2018/8590567

Chen, T., Yao, S., Wang, K., Wang, H., & Zhou, S. (2009). Modification of the electrical properties of polyimide by irradiation with 80 keV Xe ions. *Surface and Coatings Technology*, *203*(24), 3718–3721. https://doi.org/10.1016/j.surfcoat.2009.06.006

Choolaei, M., Cai, Q., & Amini Horri, B. (2021). Green synthesis and characterisation of nanocrystalline NiO-GDC powders with low activation energy for solid oxide fuel cells. *Ceramics International*, *47*(23), 32804–32816. https://doi.org/10.1016/j.ceramint.2021.08.177

Clark, S. J., & Robertson, J. (2009). Energy Levels of Oxygen Vacancies in $BiFeO_3$ by Screened Exchange. *Applied Physics Letters*, *94*(2). https://doi.org/10.1063/1.3070532

Coey, J. M. D. (2009). *Magnetism and Magnetic Materials*. Cambridge University Press.

Coondoo, I., Panwar, N., Bdikin, I., Puli, V. S., Katiyar, R. S., & Kholkin, A. L. (2012). Structural, Morphological and Piezoresponse Studies of Pr and Sc Co-substituted $BiFeO_3$ Ceramics. *Journal of Physics D: Applied Physics*, *45*(5). https://doi.org/10.1088/0022-3727/45/5/055302

Cullity, B. D., & Graham, C. D. (2009). *Introduction to Magnetic Materials: Vol. Second edition*. A John Wiley & Sons, Inc.

Dai, H., Li, T., Chen, Z., Liu, D., Xue, R., Zhao, C., Liu, H., & Huang, N. (2016). Studies on The Structural, Electrical and Magnetic Properties of Ce-Doped $BiFeO_3$ Ceramics. *Journal of Alloys and Compounds*, *672*, 182–189. https://doi.org/10.1016/j.jallcom.2016.02.134

Das, S., Sahoo, R. C., & Nath, T. K. (2020). Investigation of room temperature multiferroic properties in sol-gel derived gadolinium, cobalt doped $BiFeO_3$ nanoceramics. *Journal of Applied Physics*, *127*(5). https://doi.org/10.1063/1.5125239

Dash, B. N., Mallick, P., Dash, P., Biswal, R., Prakash, J., Tripathi, A., Kanjilal, D., & Mishra, N. C. (2013). Swift heavy ion irradiation induced modification of structure and surface morphology of $BiFeO_3$ thin film. *Bull. Mater. Sci*, *36*(5), 813–818. https://doi.org/10.1007/s12034-013-0550-4

Demir Korkmaz, A. (2020). Influence of Rare Earth Substitution on the Magnetic Properties of Spinel Ferrites. *Journal of Engineering Sciences and Design*, *8*(2), 625–634. https://doi.org/10.21923/jesd.687757

Deng, X., Zeng, Z., Gao, R., Wang, Z., Chen, G., Cai, W., & Fu, C. (2020). Study of structural, optical and enhanced multiferroic properties of Ni doped BFO thin films synthesized by sol-gel method. *Journal of Alloys and Compounds*, *831*. https://doi.org/10.1016/j.jallcom.2020.154857

Dilip, R., Jayaprakash, R., Sangaiya, P., & Gopi, S. (2020). The magnetic property alterations due to transition from barium ferrite ($BaFe_2O_4$) nano rods to barium carbonate ($BaCO_3$) quantum dots. *Results in Materials*, *7*. https://doi.org/10.1016/j.rinma.2020.100121

Dimri, M. C., Khanduri, H., Agarwal, P., Pahapill, J., & Stern, R. (2019). Structural, magnetic, microwave permittivity and permeability studies of barium monoferrite ($BaFe_2O_4$). *Journal of Magnetism and Magnetic Materials*, *486*. https://doi.org/10.1016/j.jmmm.2019.165278

Dong, S. S., Shao, W. Z., Yang, L., Ye, H. J., & Zhen, L. (2018). Surface Characterization and Degradation Behavior of Polyimide Films Induced by Coupling Irradiation Treatment. *RSC Advances*, *8*(49), 28152–28160. https://doi.org/10.1039/c8ra05744c

Du, Y., Liu, Y., Wang, A., & Kong, J. (2023). Research progress and future perspectives on electromagnetic wave absorption of fibrous materials. In *iScience* (Vol. 26, Issue 10). Elsevier Inc. https://doi.org/10.1016/j.isci.2023.107873

Dudziak, S., Ryzynska, Z., Bielan, Z., Ryl, J., Klimczuk, T., & Zielinska-Jurek, A. (2020). Pseudo-superparamagnetic behaviour of barium hexaferrite particles. *RSC Advances*, *10*(32), 18784–18796. https://doi.org/10.1039/d0ra01619e

Durga Rao, T., Kumari, A., Niranjan, M. K., & Asthana, S. (2014). Enhancement of Magnetic and Electrical Properties in Sc Substituted $BiFeO_3$ Multiferroic. *Physica B: Condensed Matter*, *448*, 267–272. https://doi.org/10.1016/j.physb.2014.03.055

Ederer, C., & Spaldin, N. A. (2005). Influence of Strain and Oxygen Vacancies on The Magnetoelectric Properties of Multiferroic Bismuth Ferrite. *Physical Review B - Condensed Matter and Materials Physics*, *71*(22). https://doi.org/10.1103/PhysRevB.71.224103

Elmahaishi, M. F., Azis, R. S., Ismail, I., & Muhammad, F. D. (2022). A review on electromagnetic microwave absorption properties: their materials and performance. *Journal of Materials Research and Technology*, *20*, 2188–2220. https://doi.org/10.1016/j.jmrt.2022.07.140

Farid, M. T., Ahmad, I., Aman, S., Kanwal, M., Murtaza, G., Ali, I., & Ishfaq, M. (2015). Structural, Electrical and Dielectric Behavior of $Ni_xCo_{1-x}Nd_yFe_{2-y}O_4$ Nano-Ferrites Synthesized by Sol-Gel Method. *Digest Journal of Nanomaterials and Biostructures*, *10*(1), 265–275.

Feng, H., Bai, D., Tan, L., Chen, N., & Wang, Y. (2017). Preparation and microwave-absorbing property of EP/$BaFe_{12}O_{19}$/PANI composites. *Journal of Magnetism and Magnetic Materials*, *433*, 1–7. https://doi.org/10.1016/j.jmmm.2016.12.118

Fruth, V., Popa, M., Calderon-Moreno, J. M., Anghel, E. M., Berger, D., Gartner, M., Anastasescu, M., Osiceanu, P., & Zaharescu, M. (2007). Chemical Solution Deposition and Characterization of $BiFeO_3$ Thin Films. *Journal of the European Ceramic Society*, *27*(13–15), 4417–4420. https://doi.org/10.1016/j.jeurceramsoc.2007.02.175

Gao, R. L., Chen, Y. S., Sun, J. R., Zhao, Y. G., Li, J. B., & Shen, B. G. (2012). Complex transport behavior accompanying domain switching in $La_{0.1}Bi_{0.9}FeO_3$ sandwiched capacitors. *Applied Physics Letters*, *101*(15). https://doi.org/10.1063/1.4757987

Gholizadeh, A., & Hosseini, S. (2024). Structural, optical, and photocatalytic properties of $Bi_{1-x}RE_xFeO_3$ (RE=La, Ce, Pr, Nd, Sm; x=0, 0.05, 0.1) thin films. *Journal of Rare Earths*. https://doi.org/10.1016/j.jre.2024.02.016

Gumiel, C., & Calatayud, D. G. (2022). Thin film processing of multiferroic $BiFeO_3$: From sophistication to simplicity. A review. *Boletin de La Sociedad Espanola de Ceramica y Vidrio*, *61*(6), 708–732. https://doi.org/10.1016/j.bsecv.2021.08.002

Guo, J., Tong, Z., Liang, Q., Gan, F., Wei, L., Yao, Q., Deng, J., Lu, Z., & Zhou, H. (2022). Investigating the effect of Pr doping $BiFeO_3$ on the microwave absorption and magnetic properties. *Journal of Magnetism and Magnetic Materials*, *549*. https://doi.org/10.1016/j.jmmm.2021.168957

Gupta, S., Pal, M., Tomar, M., Guo, R., Bhalla, A., & Gupta, V. (2021). Ferroelectric and Magnetic Domain Mapping of Magneto-Dielectric Ce Doped $BiFeO_3$ Thin Films. *Journal of Alloys and Compounds*, *882*. https://doi.org/10.1016/j.jallcom.2021.160698

Halliday, & Resnick. (2018). Fundamentals of Physics. In *John Wiley & Sons: Vol. Extended Edition*. Wiley.

Harshapriya, P., Kaur, P., & Basandrai, D. (2023). Influence of La-Ag substitution on structural, magnetic, optical, and microwave absorption properties of

$BiFeO_3$ multiferroics. *Chinese Journal of Physics*, *84*, 119–131. https://doi.org/10.1016/j.cjph.2023.03.021

Hasegawa, M., & Horie, K. (2001). Photophysics, photochemistry, and optical properties of polyimides. *Progress in Polymer Science*, *26*, 259–335. www.elsevier.com/locate/ppolysci

Hassanzadeh-Tabrizi, S. A. (2023). Precise calculation of crystallite size of nanomaterials: A review. In *Journal of Alloys and Compounds* (Vol. 968). Elsevier Ltd. https://doi.org/10.1016/j.jallcom.2023.171914

Hidayat, I. S., Dedi, Mahmudin, D., Fathiana, D. Z., & Apriadi, D. (2005). Studi Pendahuluan Penggunaan Polyimide untuk Aplikasi Optical Wave Guide. *Seminar Nasional Jaringan Kerjasama Kimia Indonesia*. https://www.researchgate.net/publication/281559835

Hill, N. A. (2000). Why are there so few magnetic ferroelectrics? *Journal of Physical Chemistry B*, *104*(29), 6694–6709. https://doi.org/10.1021/jp000114x

Iakovlev, S., Solterbeck, C. H., Kuhnke, M., & Es-Souni, M. (2005). Multiferroic $BiFeO_3$ thin films processed via chemical solution deposition: structural and electrical characterization. *Journal of Applied Physics*, *97*(9). https://doi.org/10.1063/1.1881776

Idesaki, A., Yamamoto, S., Sugimoto, M., Yamaki, T., & Maekawa, Y. (2020). Formation of Fe nanoparticles by ion implantation technique for catalytic graphitization of a phenolic resin. *Quantum Beam Science*, *4*(1). https://doi.org/10.3390/qubs4010011

Ihlefeld, J. F., Podraza, N. J., Liu, Z. K., Rai, R. C., Xu, X., Heeg, T., Chen, Y. B., Li, J., Collins, R. W., Musfeldt, J. L., Pan, X. Q., Schubert, J., Ramesh, R., & Schlom, D. G. (2008). Optical band gap of $BiFeO_3$ grown by molecular-beam epitaxy. *Applied Physics Letters*, *92*(14). https://doi.org/10.1063/1.2901160

Istiyono, E. (2008). Implantasi Ion sebagai Upaya Modifikasi Sifat Mekanik dan Elektrik Bahan. *Seminar Nasional Penelitian, Pendidikan Dan Penerapan MIPA*.

Jadav, G. D., Chavda, S. K., Kanjariya, P. V., & Bhalodia, J. A. (2020). Influence of the Gd substitution on the structural, magnetic and electrical properties of $BiFeO_3$. *Materials Today: Proceedings*, *47*, 510–516. https://doi.org/10.1016/j.matpr.2020.09.780

Jamil, Y., Ahmad, M. R., Hafeez, A., Ul Haq, Z., & Amin, N. (2008). Microwave Assisted Synthesis of Fine Magnetic Manganase Ferrite Particles Using Co-Presipitation Technique. *Pak. J. Agri. Sci*, *45*(3), 59–64.

Jeon, N., Rout, D., Kim, I. W., & Kang, S. J. L. (2011). Enhanced multiferroic properties of single-phase $BiFeO_3$ bulk ceramics by Ho doping. *Applied Physics Letters*, *98*(7). https://doi.org/10.1063/1.3552682

Khaibullin, R. I., Popok, V. N., Bazarov, V. V., Zheglov, E. P., Rameev, B. Z., Okay, C., Tagirov, L. R., & Aktas, B. (2002). Ion synthesis of iron granular films in polyimide. *Nuclear Instruments and Methods in Physics Research B*, *191*, 810–814. https://doi.org/10.1016/S0168-583X(02)00658-4

Khan, A., & Balakrishnan, K. (2011). III-nitride-based short-wavelength ultraviolet light sources. *Comprehensive Semiconductor Science and Technology, Elsevier*, 1–27. https://doi.org/10.1016/B978-0-44-453153-7.00023-7

Kim, D. C., Lee, M. J., Ahn, S. E., Seo, S., Park, J. C., Yoo, I. K., Baek, I. G., Kim, H. J., Yim, E. K., Lee, J. E., Park, S. O., Kim, H. S., Chung, U. I., Moon, J. T., & Ryu, B. I. (2006). Improvement of resistive memory switching in NiO using IrO_2. *Applied Physics Letters*, *88*(23). https://doi.org/10.1063/1.2210087

Kisić, D., Nenadović, M., Barudžija, T., Noga, P., Vaňa, D., Muška, M., & Rakočević, Z. (2020). Modification of polyethylene's surface properties by high fluence Fe implantation. *Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms*, *462*, 143–153. https://doi.org/10.1016/j.nimb.2019.11.022

Köçkar, H., & Kaplan, N. (2021). Investigation of soft magnetic properties of Ni/Cu multilayer films: Definitive screening design and response surface methodology. *Journal of Materials Science: Materials in Electronics*, *32*(16), 20955–20964. https://doi.org/10.1007/s10854-021-06506-0

Köçkar, H., Kaplan, N., & Karaagac, O. (2023). Martensitic ternary FeCrMn thin films sputtered from austenitic AISI 202 stainless steel target: Phase transition and corresponding magnetic properties under the influence of deposition rate. *Journal of Magnetism and Magnetic Materials*, *587*. https://doi.org/10.1016/j.jmmm.2023.171352

Köçkar, H., Şenturk, Ö., Karpuz, A., Karaagac, O., Kaplan, N., & Kuru, H. (2019). Easy Controlled Properties of Quaternary FeNiCrCd Thin Films Deposited from a Single dc Magnetron Sputtering Under the Influence of Deposition Rate. *Journal of Superconductivity and Novel Magnetism*, *32*(11), 3535–3540. https://doi.org/10.1007/s10948-019-5082-8

Komanoya, T., Nakajima, K., Kitano, M., & Hara, M. (2015). Synergistic catalysis by lewis acid and base sites on ZrO_2 for meerwein-ponndorf-verley reduction. *Journal of Physical Chemistry C*, *119*(47), 26540–26546. https://doi.org/10.1021/acs.jpcc.5b08355

Kossar, S., Amiruddin, R., & Rasool, A. (2021). Study on thickness-dependence characteristics of bismuth ferrite (BFO) for ultraviolet (UV) photodetector application. In *Micro and Nano Systems Letters* (Vol. 9, Issue 1). Society of Micro and Nano Systems. https://doi.org/10.1186/s40486-020-00128-7

Kumar, K. S., Ramu, S., Sudharani, A., Ramanadha, M., Murali, G., & Vijayalakshmi, R. P. (2020). Enhanced magnetic and dielectric properties of Gd doped $BiFeO_3$: Er nanoparticles synthesized by sol-gel technique. *Physica E: Low-Dimensional Systems and Nanostructures*, *115*. https://doi.org/10.1016/j.physe.2019.113689

Kurniawan, B., Saptari, S. A., Syarif, N., & Jakarta, H. (2016). Sintesis Perovskite Nano Material $La_{0,67}Sr_{0,33}Mn_{1-x}Ni_xO_3$ (x = 0,2 & 0,25) dengan Metode Sintesis Sol Gel Analysis Microstructure of $La_{0.7}(Sr_{1-x}Ca_x)_{0.3}MnO_3$ Prepared by Sol-Gel Method View project. *Omega: Jurnal Fisika Dan Pendidikan Fisika*, *2*(1), 25–27. http://omega.uhamka.ac.id/

Leal-Zayas, J. C., Vargas-Ortiz, R. Á., Almaral-Sánchez, J. L., Mendivil-Escalante, J. M., Silva-González, R., Moya-Canul, K. M., Peña-Flores, J. I., & Yáñez-Limón, J. M. (2024). Study of the physical properties of $BiFeO_3$ films obtained by RF sputtering using a homemade target. *Boletin de La Sociedad Espanola de Ceramica y Vidrio*. https://doi.org/10.1016/j.bsecv.2024.10.001

Lee, S. U., Kim, S. S., Park, M. H., Kim, J. W., Jo, H. K., & Kim, W. J. (2007). Effects of Co-substitution on the electrical properties of $BiFeO_3$ thin films prepared by chemical solution deposition. *Applied Surface Science*, *254*(5), 1493–1497. https://doi.org/10.1016/j.apsusc.2007.07.076

Li, G. M., Wang, L. C., & Xu, Y. (2014). Templated synthesis of highly ordered mesoporous cobalt ferrite and its microwave absorption properties. *Chinese Physics B*, *23*(8). https://doi.org/10.1088/1674-1056/23/8/088105

Li, Q., Kartikowati, C. W., Horie, S., Ogi, T., Iwaki, T., & Okuyama, K. (2017). Correlation between particle size/domain structure and magnetic properties of highly crystalline Fe_3O_4 nanoparticles. *Scientific Reports*, *7*(1). https://doi.org/10.1038/s41598-017-09897-5

Li, Y., Sritharan, T., Zhang, S., He, X., Liu, Y., & Chen, T. (2008). Multiferroic properties of sputtered $BiFeO_3$ thin films. *Applied Physics Letters*, *92*(13). https://doi.org/10.1063/1.2901871

Lin, Y. C., Li, J. Y., & Yen, W. T. (2008). Low Temperature ITO Thin Film Deposition on PES Substrate Using Pulse Magnetron Sputtering. *Applied Surface Science*, *254*(11), 3262–3268. https://doi.org/10.1016/j.apsusc.2007.11.006

Lin, Y., Liu, Y., Dai, J., Wang, L., & Yang, H. (2018). Synthesis and microwave absorption properties of plate-like $BaFe_{12}O_{19}$@Fe_3O_4 core-shell composite. *Journal of Alloys and Compounds*, *739*, 202–210. https://doi.org/10.1016/j.jallcom.2017.12.086

Liu, F., Zhang, X., Guo, T., & Albert, J. (2020). Optical detection of the percolation threshold of nanoscale silver coatings with optical fiber gratings. *APL Photonics*, *5*(7). https://doi.org/10.1063/5.0011755

Liu, P., Ng, V. M. H., Yao, Z., Zhou, J., Lei, Y., Yang, Z., & Kong, L. B. (2017). Microwave absorption properties of double-layer absorbers based on $Co_{0.2}Ni_{0.4}Zn_{0.4}Fe_2O_4$ ferrite and reduced graphene oxide composites. *Journal of Alloys and Compounds*, *701*, 841–849. https://doi.org/10.1016/j.jallcom.2017.01.202

Liu, S., Wei, K., Cheng, Y., Qin, B., Yan, S., Luo, H., & Deng, L. (2019). Enhanced microwave absorbing properties of La-modified $Bi_5Co_{0.5}Fe_{0.5}Ti_3O_{15}$ multiferroics. *Journal of Materials Science: Materials in Electronics*, *30*(16), 15619–15626. https://doi.org/10.1007/s10854-019-01940-7

Ma, Y., Du, G., Yin, J., Yang, T., & Zhang, Y. (2005). Structural and optoelectrical properties of ZnO thin films deposited on GaAs substrate by metal-organic chemical vapour deposition (MOCVD). *Semiconductor Science and Technology*, *20*(12), 1198–1202. https://doi.org/10.1088/0268-1242/20/12/009

Maheen, M., Rafeekali, K., Sebastian, R., & Mohammed, E. M. (2015). Structural and dielectric studies of cerium substituted nickel ferrite nano particle. *The International Journal Of Engineering And Science (IJES)* ||, 2319–1805. www.theijes.com

Mahesh Kumar, M., Palkar, V. R., Srinivas, K., & Suryanarayana, S. V. (2000). Ferroelectricity in a Pure $BiFeO_3$ Ceramic. *Applied Physics Letters*, *76*(19), 2764–2766. https://doi.org/10.1063/1.126468

Malik, A., & Kandasubramanian, B. (2018). Flexible Polymeric Substrates for Electronic Applications. *Polymer Reviews*, *58*(4), 630–667. https://doi.org/10.1080/15583724.2018.1473424

Manawan, M. T. E. (2014). *Peningkatan Sifat Magnetik dan Absorbsi Gelombang Mikro pada Sistem Nanokomposit Berpenguat Hexaferit melalui Proses Mechanical Alloying dan Destruksi Ultrasonik Daya Tinggi*. Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Indonesia.

Micheli, D., Pastore, R., Vricella, A., Delfini, A., Marchetti, M., & Santoni, F. (2017). *Spectroscopic Methods for Nanomaterials Characterization* (S. Thomas, R. Thomas, A. K. Zachariah, & R. K. Mishra, Eds.; Vol. 2). Elsevier.

Mickan, M., Coddet, P., Vulliet, J., Caillard, A., Sauvage, T., & Thomann, A. L. (2020). Optimized Magnetron Sputtering Process for The Deposition of Gadolinia Doped CeriaLayers with Controlled Structural Properties. *Surface and Coatings Technology*, *398*. https://doi.org/10.1016/j.surfcoat.2020.126095

Mirigliano, M., & Milani, P. (2021). Electrical conduction in nanogranular cluster-assembled metallic films. In *Advances in Physics: X* (Vol. 6, Issue 1). Taylor and Francis Ltd. https://doi.org/10.1080/23746149.2021.1908847

Misiurev, D., Kaspar, P., & Holcman, V. (2022). Brief Theoretical Overview of Bi-Fe-O Based Thin Films. In *Materials* (Vol. 15, Issue 24). MDPI. https://doi.org/10.3390/ma15248719

Misiurev, D., Kaspar, P., Sobola, D., Papež, N., H. Fawaeer, S., & Holcman, V. (2023). Exploring the Piezoelectric Properties of Bismuth Ferrite Thin Films Using Piezoelectric Force Microscopy: A Case Study. *Materials*, *16*(8). https://doi.org/10.3390/ma16083203

Mizutani, U., & Sato, H. (2017). The physics of the Hume-Rothery electron concentration rule. *Crystals*, *7*(1). https://doi.org/10.3390/cryst7010009

Monshi, A., Foroughi, M. R., & Monshi, M. R. (2012). Modified scherrer equation to estimate more accurately nano-crystallite size using XRD. *World Journal of Nano Science and Engineering*, *02*(03), 154–160. https://doi.org/10.4236/wjnse.2012.23020

Mostari, M. S., Islam, N., & Matin, M. A. (2020). Structural Modification and Evaluation of Dielectric and Ferromagnetic Properties of Ce-Modified $BiFeO_3$–$BaTiO_3$ Ceramics. *Ceramics International*, *46*(10), 15840–15850. https://doi.org/10.1016/j.ceramint.2020.03.131

Mulyawan, A., & Ari Adi, W. (2018). Raman spectroscopy study, magnetic and microwave absorbing properties of modified barium strontium monoferrite $Ba_{(1-x)}Sr_{(x)}Fe_2O_4$. *Malaysian Journal of Fundamental and Applied Sciences*, *14*(1), 73–77.

Mulyawan, A., Ari Adi, W., & Yunasfi. (2018). Raman spectroscopy study, magnetic and microwave absorbing properties of modified barium strontium monoferrite $Ba_{(1-x)}Sr_{(x)}Fe_2O_4$. *Malaysian Journal of Fundamental and Applied Sciences*, *14*(1), 73–77. https://doi.org/10.11113/mjfas.v14n1.750

Mulyawan, A., Mustofa, S., Deswita, Ajiesastra, R. A., & Adi, W. A. (2021). The Effect of Mn^{4+} and Ni^{2+} Co-substitution Barium Monoferrite: Phase Formation, Raman Analysis, Magnetic Properties, and Microwave Absorbing Property Studies. *Journal of Superconductivity and Novel Magnetism*, *34*(9), 2415–2429. https://doi.org/10.1007/s10948-021-05942-7

Muneeswaran, M., Jegatheesan, P., Gopiraman, M., Kim, I. S., & Giridharan, N. V. (2014). Structural, optical, and multiferroic properties of single phased $BiFeO_3$. *Applied Physics A: Materials Science and Processing*, *114*(3), 853–859. https://doi.org/10.1007/s00339-013-7712-5

Murugesan, C., & Chandrasekaran, G. (2015). Impact of Gd^{3+} substitution on the structural, magnetic and electrical properties of cobalt ferrite nanoparticles. *RSC Advances*, *5*(90), 73714–73725. https://doi.org/10.1039/c5ra14351a

Naganuma, H., Miura, J., & Okamura, S. (2008). Ferroelectric, Electrical and Magnetic Properties of Cr, Mn, Co, Ni, Cu Added Polycrystalline $BiFeO_3$ Films. *Applied Physics Letters*, *93*(5). https://doi.org/10.1063/1.2965799

Nastasi, M., & Mayer, J. W. (2006). *Ion Implantation and Synthesis of Materials*.

Nath, D., & Das, R. (2021). Surface and displacement damage engineering on CdSe nanocrystalline thin film by swift heavy Ag ions: A theoretical investigation by SRIM/TRIM package. *Vacuum*, *190*. https://doi.org/10.1016/j.vacuum.2021.110293

Nathan, A., Ahnood, A., Cole, M. T., Lee, S., Suzuki, Y., Hiralal, P., Bonaccorso, F., Hasan, T., Garcia-Gancedo, L., Dyadyusha, A., Haque, S., Andrew, P., Hofmann, S., Moultrie, J., Chu, D., Flewitt, A. J., Ferrari, A. C., Kelly, M. J., Robertson, J., … Milne, W. I. (2012). Flexible electronics: the next ubiquitous platform. *Proceedings of the IEEE*, *100*(SPL CONTENT), 1486–1517. https://doi.org/10.1109/JPROC.2012.2190168

Neaton, J. B., Ederer, C., Waghmare, U. V., Spaldin, N. A., & Rabe, K. M. (2005). First-principles study of spontaneous polarization in multiferroic $BiFeO_3$. *Physical Review B - Condensed Matter and Materials Physics*, *71*(1), 1–8. https://doi.org/10.1103/PhysRevB.71.014113

Noori, F., & Gholizadeh, A. (2019). Structural, optical, magnetic properties and visible light photocatalytic activity of $BiFeO_3$/graphene oxide nanocomposites. *Materials Research Express*, *6*(12). https://doi.org/10.1088/2053-1591/ab6807

Paul, C. R. (2006). *Introduction to Electromagnetic Compatibility: Vol. Second Edition* (Second Edition). John Willey & Sons, Inc. .

Pavia, D. L., Lampman, G. M., Kriz, G. S., & Vyvyan, J. R. (2009). *Introduction to Spectroscopy: Vol. 4th edition*. Brooks/Cole, Cengage Learning.

Petrukhin, D., Salnikov, V., Nikitin, A., Sidane, I., Slimani, S., Alberti, S., Peddis, D., Omelyanchik, A., & Rodionova, V. (2024). Effect of Bismuth Ferrite Nanoparticles on Physicochemical Properties of Polyvinylidene Fluoride-Based Nanocomposites. *Journal of Composites Science*, *8*(8). https://doi.org/10.3390/jcs8080329

Pradeep, P., Mullai, R. U., Pradeep, P. P., & Chandrasekaran, G. (2012). Synthesis and Characterization of Lanthanum Doped Mg-Zn Ferrite Nanoparticles Prepared by Sol-Gel Method. *International Journal of Recent Trends in Science And Technology*, *5*(2), 2012–2078.

Prearo, I., Lixandrão Filho, A. L., & Guedes, S. (2022). RDM: An R interface for high-throughput simulation of ion-material interactions using TRIM. *Computer Physics Communications*, *279*. https://doi.org/10.1016/j.cpc.2022.108451

Priya, A. S., Geetha, D., Siqueiros, J. M., & Ţălu, Ștefan. (2022). Tunable Optical and Multiferroic Properties of Zirconium and Dysprosium Substituted Bismuth Ferrite Thin Films. *Molecules*, *27*(21). https://doi.org/10.3390/molecules27217565

Purusottam Reddy, B., Cui, H., Chandra Sekhar, M., Vattikuti, S. V. P., Suh, Y., & Park, S. H. (2019). Influence of Gd doping on the visible-light photocatalytic activity and magnetic properties of $BiFeO_3$ particles. *Materials Research Express*, *6*(11). https://doi.org/10.1088/2053-1591/ab463d

Purwanto, S., Adi, W. A., & Taryana, Y. (2017). Enhancement of microwave absorption properties on modified kapton film by ion implantation process. *Journal of Physics: Conference Series*, *817*, 012002. https://doi.org/10.1088/1742-6596/817/1/012002

Qian, K., Yao, Z., Lin, H., Zhou, J., Haidry, A. A., Qi, T., Chen, W., & Guo, X. (2020). The influence of Nd substitution in Ni–Zn ferrites for the improved microwave absorption properties. *Ceramics International*, *46*(1), 227–235. https://doi.org/10.1016/j.ceramint.2019.08.255

Rafeekali, K., & Maheen, M. (2015). Influence of rare earth (Gd^{3+}) on electrical and magnetic studies of nickel ferrite nanoparticles. *International Journal of Recent Research in Physics and Chemical Sciences (IJRRPCS)*, *2*(12), 8–12. www.paperpublications.org

Rafeekali, K., Maheen, M., & Mohammed, E. M. (2015). Influence of rare earth (Tb^{3+}) on electrical and magnetic studies of nickel ferrite nanoparticles. *IOSR Journal of Applied Physics (IOSR-JAP)*, *7*(3), 21–25. https://doi.org/10.9790/4861-07332125

Rajitha, B., & Suvarna, R. P. (2023). Effect of Gd and Ce Doped $BiFeO_3$ for Photocatalytic Activity. *Trends in Sciences*, *20*(12). https://doi.org/10.48048/tis.2024.7140

Ramazanov, S., Ţălu, Ş., Sobola, D., Orudzev, F., Ramazanov, G., Selimov, D., Kaspar, P., Macků, R., & Nazarov, A. (2021). Crack resistance of bismuth ferrite films obtained on a flexible substrate. *E3S Web of Conferences*, *295*. https://doi.org/10.1051/e3sconf/202129504008

Reddy, B. C., Vidya, Y. S., Manjunatha, H. C., Sridhar, K. N., Pasha, U. M., Seenappa, L., Sadashivamurthy, B., Dhananjaya, N., Sankarshan, B. M., Krishnaveni, S., Sathish, K. V., & Gupta, P. S. D. (2022). Synthesis and characterization of Barium ferrite nano-particles for X-ray/gamma radiation shielding and display applications. *Progress in Nuclear Energy*, *147*. https://doi.org/10.1016/j.pnucene.2022.104187

Rong, Q. Y., Wang, L. L., Xiao, W. Z., & Xu, L. (2015). First-principles study of magnetic properties in Co-doped $BiFeO_3$. *Physica B: Condensed Matter*, *457*, 1–4. https://doi.org/10.1016/j.physb.2014.08.028

Sadykov, R. A., Shiryaev, A. A., Gavrilyuk, A. G., Sadykova, I. R., Kulnitzkiy, B. A., Blank, V. D., Lebed, J. B., & Koptelov, E. A. (2016). Nanostructure of Kapton polyimide irradiated with high-energy heavy Pb ions. *Journal of Surface Investigation*, *10*(5), 1048–1052. https://doi.org/10.1134/S1027451016050384

Sahu, R. P., Abdalla, A. M., Fattah, A., Ghosh, S., Puri, I. K., & Rahman, A. (2017). Synthesis, characterization, and applications of carbon nanotubes functionalized with magnetic nanoparticles. In *Advances in Nanomaterials: Fundamentals, Properties and Applications* (pp. 37–57). Springer International Publishing. https://doi.org/10.1007/978-3-319-64717-3_2

Sharif, S., Murtaza, G., Meydan, T., Williams, P. I., Cuenca, J., Hashimdeen, S. H., Shaheen, F., & Ahmad, R. (2018). Structural, surface morphology, dielectric and magnetic properties of holmium doped $BiFeO_3$ thin films prepared by pulsed laser deposition. *Thin Solid Films*, *662*, 83–89. https://doi.org/10.1016/j.tsf.2018.07.029

Sharma, A. D., & Sharma, H. B. (2021). Influence of Gd doping and thickness variation on structural, morphological and optical properties of nanocrystalline bismuth ferrite thin films via sol–gel technology. *Journal of Materials Science: Materials in Electronics*, *32*(15), 20612–20624. https://doi.org/10.1007/s10854-021-06571-5

Shirahata, Y., & Oku, T. (2016). Characterization and Photovoltaic Properties of $BiFeO_3$ Thin Films. *Coatings*, *6*(4). https://doi.org/10.3390/coatings6040068

Sifford, J., Walsh, K. J., Tong, S., Bao, G., & Agarwal, G. (2019). Indirect Magnetic Force Microscopy. *Nanoscale Advances*, *1*(6), 2348–2355. https://doi.org/10.1039/c9na00193j

Siwach, P. K., Singh, H. K., Singh, J., & Srivastava, O. N. (2007). Anomalous ferromagnetism in spray pyrolysis deposited multiferroic $BiFeO_3$ films. *Applied Physics Letters*, *91*(12). https://doi.org/10.1063/1.2785945

Song, G. L., Su, J., Ma, G. J., Wang, T. X., Yang, H. G., & Chang, F. G. (2014). Effects of trivalent gadolinium and cobalt Co-substitution on the crystal structure, electronic transport, and ferromagnetic properties of bismuth ferrite. *Materials Science in Semiconductor Processing*, *27*, 899–908. https://doi.org/10.1016/j.mssp.2014.09.004

Spaldin, N. A. (2011). *Magnetic Materials: Fundamentals and Applications: Vol. 2nd Edition*. Cambridge University Press.

Sudjatmoko, Susita, L. R., Wirjoadi, & Siswanto, B. (2013). Corrosion Resistance Improvement of AISI 316L Stainless Steel Using Nitrogen Ion Implantation. *Jurnal Iptek Nuklir Ganendra*, *16*(2), 67–78.

Sujitno, T. (2006). Pemanfaatan Implantor Ion 150 keV/2mA untuk Surface Treatment. *Proseding Pertemuan Dan Presentasi Ilmiah Teknologi Akselerator Dan Aplikasinya*, 62–69.

Sukarsa, S. W., Soegiyono, B., & Budiawanti, S. (2022). The Effect of Zinc Doped Bismuth Ferrite on Changes in Structural and Microwave Absorption Properties through the Sol-gel Synthesis Method. *International Journal of Integrated Engineering*, *14*(2), 73–79. https://doi.org/10.30880/ijie.2022.14.02.011

Suthar, M., & Roy, P. K. (2022). Structural, electromagnetic, and Ku-band absorption characterization of La-Mg substituted Y-type barium hexaferrite for EMI shielding application. *Materials Science and Engineering: B*, *283*. https://doi.org/10.1016/j.mseb.2022.115801

Tanapongpisit, N., Wongprasod, S., Laohana, P., Sonsupap, S., Khajonrit, J., Musikajaroen, S., Wongpratat, U., Yotburut, B., Maensiri, S., Meevasana, W., & Saenrang, W. (2024). Enhancing activated carbon supercapacitor electrodes using sputtered Cu-doped $BiFeO_3$ thin films. *Scientific Reports*, *14*(1). https://doi.org/10.1038/s41598-024-79439-3

Tariq, M., Shaari, A., Chaudhary, K., Ahmed, R., Jalil, M. A., & Ismail, F. D. (2023). Magnetoelectric, and Dielectric Based Switching Properties of Co-doped $BiFeO_3$ for Low Energy Memory Technology: A first-Principles Study. *Physica B: Condensed Matter*, *650*. https://doi.org/10.1016/j.physb.2022.414489

Taryana, E., Soegijono, B., & Dedi. (2021). Behavior of Microwave Absorption of $BiFeO_3$ Nanoparticles Fabricated by Sol-gel Method. *AIP Conference Proceedings 2331*, *2331*. https://doi.org/10.1063/5.0041635

Taryana, Y. (2021). Peningkatan Sifat Absorpsi Gelombang Elektromagnetik Melalui Rekayasa Mikrostruktur dan Struktur Sel Material Penyerap Sistem Barium Hexaferrite. In *Disertasi, Universitas Indonesia*. Universitas Indonesia.

Taryana, Y., Manaf, A., & Adi, W. A. (2019). Change of structure and magnetic properties of La-substituted barium hexaferrite. *Journal of Physics: Conference Series 1282*, *1282*(1). https://doi.org/10.1088/1742-6596/1282/1/012045

Taryana, Y., Manaf, A., Sudrajat, N., & Wahyu, Y. (2019). Material Penyerap Gelombang Elektromagnetik Jangkauan Frekuensi Radar. *Jurnal Keramik dan Gelas Indonesia* , *28*(1), 1–28.

Tian, S. (2003). Predictive Monte Carlo Ion Implantation Simulator from Sub-keV to Above 10 MeV. *Journal of Applied Physics*, *93*(10 1), 5893–5904. https://doi.org/10.1063/1.1565690

Tiron, V., Jijie, R., Matei, T., Velicu, I. L., Gurlui, S., & Bulai, G. (2023). Piezo-Enhanced Photocatalytic Performance of Bismuth Ferrite-Based Thin Film for Organic Pollutants Degradation. *Coatings*, *13*(8). https://doi.org/10.3390/coatings13081416

Tomczyk, M., Bretos, I., Jiménez, R., Mahajan, A., Venkata Ramana, E., Lourdes Calzada, M., & Vilarinho, P. M. (2017). Direct fabrication of $BiFeO_3$ thin films on polyimide substrates for flexible electronics. *Journal of Materials Chemistry C*, *5*(47), 12529–12537. https://doi.org/10.1039/c7tc04571a

Tracton, A. A. (2005). *Coatings Technology Handbook: Vol. Third Edition*. Taylor & Francis.

Upadhyay, R. B., Pandya, N. C., & Joshi, U. S. (2017). Broadband dielectric spectroscopy of $BiFeO_3$ thin film up to Ku band frequency. *Journal of Physics D: Applied Physics*, *50*(25). https://doi.org/10.1088/1361-6463/aa6fd1

Wandira, I., Karo, K., Adi, W. A., Nuklir, B. T., & Jakarta, N. (2018). Material Absorber Gelombang Elektromagnetik Berbasis $(La_{0.8}Ba_{0.2})(Mn_{(1-x)}/2Zn_xFe_{(1-x)/2})O_3$ (x = 0-0,6). *Jurnal Teori dan Aplikasi Fisika*, *06*(01), 63–74.

Wang, J., Neaton, J. B., Zheng, H., Nagarajan, V., Ogale, S. B., Liu, B., Viehland, D., Vaithyanathan, V., Schlom, D. G., Waghmare, U. V., Spaldin, N. A., Rabe, K. M., Wuttig, M., & Ramesh, R. (2021). Epitaxial $BiFeO_3$ multiferroic thin film heterostructures. *Science*, *299*(5613), 1719–1722. https://doi.org/10.1126/science.1080615

Wang, L., Li, X., Shi, X., Huang, M., Li, X., Zeng, Q., & Che, R. (2021). Recent progress of microwave absorption microspheres by magnetic-dielectric synergy. *Nanoscale*, *13*(4), 2136–2156. https://doi.org/10.1039/d0nr06267g

Wasa, K., Kitabatake, M., & Adachi, H. (2004). *Thin Film materials Technology: Sputtering of Compound Materials*. William Andrew Publishing, Springer.

Xu, H. M., Wang, H. C., Shen, Y., Lin, Y. H., & Nan, C. W. (2014). Photocatalytic and magnetic behaviors of $BiFeO_3$ thin films deposited on different substrates. *Journal of Applied Physics*, *116*(17). https://doi.org/10.1063/1.4901066

Xu, R., Zhang, S., Wang, F., Zhang, Q., Li, Z., Wang, Z., Gao, R., Cai, W., & Fu, C. (2019). The Study of Microstructure, Dielectric and Multiferroic Properties of $(1 - x)Co_{0.8}Cu_{0.2}Fe_2O_{4-x}Ba_{0.6}Sr_{0.4}TiO_3$ Composites. *Journal of Electronic Materials*, *48*(1), 386–400. https://doi.org/10.1007/s11664-018-6718-3

Yang, H., Ye, T., Lin, Y., & Liu, M. (2015). Preparation and microwave absorption property of graphene/$BaFe_{12}O_{19}$/$CoFe_2O_4$ nanocomposite. *Applied Surface Science*, *357*, 1289–1293. https://doi.org/10.1016/j.apsusc.2015.09.147

Yeng Seng, L., Ee Meng, C., Wen Liu, W., Lee, Y. S., Malek, F., Cheng, E. M., Liu, W.-W., You, K., Wee, F. H., Zahid, L., & Rahim, H. A. (2016). Single Layer Microwave Absorber Based on Rice Husk-MWCNTs Composites. *ARPN Journal of Engineering and Applied Sciences*, *11*(14). www.arpnjournals.com

You, L., Chua, N. T., Yao, K., Chen, L., & Wang, J. (2009). Influence of oxygen pressure on the ferroelectric properties of epitaxial $BiFeO_3$ thin films by pulsed laser deposition. *Physical Review B - Condensed Matter and Materials Physics*, *80*(2). https://doi.org/10.1103/PhysRevB.80.024105

Yousaf, M., Lu, Y., Hu, E., Wang, B., Niaz Akhtar, M., Noor, A., Akbar, M., Yousaf Shah, M. A. K., Wang, F., & Zhu, B. (2022). Tunable magneto-optical and interfacial defects of Nd and Cr-doped bismuth ferrite nanoparticles for microwave absorber applications. *Journal of Colloid and Interface Science*, *608*, 1868–1881. https://doi.org/10.1016/j.jcis.2021.09.182

Yunasfi, Mashadi, & Mulyawan, A. (2017). Sintesis Bahan Absorber Gelombang Mikro $Ni_{(1,5-x)}La_xFe_{1,5}O_4$ dengan Metode Sol Gel. *Jurnal Sains Materi Indonesia*, *19*(1), 19–24.

Yunasfi, Mashadi, & Mulyawan, A. (2019). Magnetic and microwave absorption properties of neodymium doped nickel ferrite using milling technique. *Jurnal Teknologi*, *81*(4), 21–25. https://doi.org/10.11113/jt.v81.11045

Yunasfi, Mulyawan, A., Mashadi, Suyanti, & Ari Adi, W. (2021a). Synthesis of $NiCe_xFe_{(2-x)}O_4$ ($0 \leq x \leq 0.05$) as Microwave Absorbing Materials via Solid-State Reaction Method. *Journal of Magnetism and Magnetic Materials*, *532*. https://doi.org/10.1016/j.jmmm.2021.167985

Yunasfi, Mulyawan, A., Mashadi, Suyanti, & Ari Adi, W. (2021b). Synthesis of $NiCe_xFe_{(2-x)}O_4$ ($0 \leq x \leq 0.05$) as Microwave Absorbing Materials via Solid-State Reaction Method. *Journal of Magnetism and Magnetic Materials*, *532*. https://doi.org/10.1016/j.jmmm.2021.167985

Zecchi, S., Cristoforo, G., Bartoli, M., Tagliaferro, A., Torsello, D., Rosso, C., Boccaccio, M., & Acerra, F. (2024). A Comprehensive Review of Electromagnetic Interference Shielding Composite Materials. In *Micromachines* (Vol. 15, Issue 2). Multidisciplinary Digital Publishing Institute (MDPI). https://doi.org/10.3390/mi15020187

Zeng, X., Cheng, X., Yu, R., & Stucky, G. D. (2020a). Electromagnetic microwave absorption theory and recent achievements in microwave absorbers. In *Carbon* (Vol. 168, pp. 606–623). Elsevier Ltd. https://doi.org/10.1016/j.carbon.2020.07.028

Zeng, X., Cheng, X., Yu, R., & Stucky, G. D. (2020b). Electromagnetic microwave absorption theory and recent achievements in microwave absorbers. In *Carbon* (Vol. 168, pp. 606–623). Elsevier Ltd. https://doi.org/10.1016/j.carbon.2020.07.028

Zhang, H., Yao, X., Wu, M., & Zhang, L. (2013). Complex permittivity and permeability of Zn-Co substituted Z type hexaferrite prepared by citrate sol-gel process. *British Ceramic Transactions*, *102*(1), 10–15. https://doi.org/10.1179/096797803225009193

Zhang, Y., Wang, Y., Qi, J., Tian, Y., Sun, M., Zhang, J., Hu, T., Wei, M., Liu, Y., & Yang, J. (2018a). Enhanced magnetic properties of $BiFeO_3$ thin films by doping: Analysis of structure and morphology. *Nanomaterials*, *8*(9). https://doi.org/10.3390/nano8090711

Zhang, Y., Wang, Y., Qi, J., Tian, Y., Sun, M., Zhang, J., Hu, T., Wei, M., Liu, Y., & Yang, J. (2018b). Enhanced magnetic properties of $BiFeO_3$ thin films by doping: analysis of structure and morphology. *Nanomaterials*, *8*(9). https://doi.org/10.3390/nano8090711

Zhao, X., Sun, A., Zhang, W., Yu, L., Zuo, Z., Suo, N., Pan, X., & Han, Y. (2020). Enhancement of the magnetic properties of Ni–Cu–Co ferrites by the magnetic Ce^{3+}-ions substitution. *Journal of Materials Science: Materials in Electronics*, *31*(1), 762–778. https://doi.org/10.1007/s10854-019-02583-4

Zhou, K. S., Xia, H., Huang, K. L., Deng, L. W., Wang, D., Zhou, Y. P., & Gao, S. H. (2009). The microwave absorption properties of $La_{0.8}Sr_{0.2}Mn_{1-y}Fe_yO_3$ nanocrystalline powders in the frequency range 2-18 GHz. *Physica B: Condensed Matter*, *404*(2), 175–179. https://doi.org/10.1016/j.physb.2008.09.042

Zhou, W., Zhong, •, & Wang, L. (2006). *Scanning microscopy for nanotechnology techniques and applications* (W. Zhou & Z. L. Wang, Eds.). Springer.

Ziegler, J. F., Ziegler, M. D., & Biersack, J. P. (2010). SRIM - The Stopping and Range of Ions in Matter (2010). *Nuclear Instruments and Methods in Physics Research, Section B: Beam Interactions with Materials and Atoms*, *268*(11–12), 1818–1823. https://doi.org/10.1016/j.nimb.2010.02.091